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Evaluation method of influence of catalyst precursors on initiation of in-situ combustion and it's dynamics

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Abstract

Copyright 2017, Society of Petroleum Engineers. The growing demand for energy requires alternative technologies for the development of new deposits with tar sands and heavy oil, as well as the rehabilitation of depleted, abandoned deposits. Combining all the advantages of thermal methods, the method of in-situ combustion in the presence of catalyst precursors caused interest in petroleum industry due to the possibility of upgrading or primary refining of heavy oils directly in the reservoir. This article describes an experimental method for studying the effect of catalyst precursors on initiation of in-situ combustion of heavy oils. Thermograms in air atmosphere (combustion curves) for oil-saturated sandstones from Permian deposits in the presence of different precursors were obtained. As a precursor, resinates of copper, cobalt, iron and nickel were used. The possibility of evaluation the catalyst effect on the initiation of in-situ combustion was shown.

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